Appendix O
Chula Vista Sewer Overflow Response Plan

CITY OF CHULA VISTA

Sewer Overflow Response And Prevention Plan

California Regional Water Quality Control Board

San Diego Region

ORDER No. 96-04

Revised 1-05

CITY OF
CHULA VISTA

SEWER OVERFLOW RESPONSE PLAN

PURPOSE

The City of Chula Vista owns and operates a diverse collection system that consists of pump stations, gravity flow sewer mains and force mains. These facilities are well maintained and normally should not result in any sewage overflows or spills. However, the possibility exists that unforeseen accidents, equipment failure or other events not controllable by the city could result in sewer overflow or spills. This procedure provides a plan that when enacted in response to a sewer overflow or spill would reduce or eliminate public health hazards, prevent unnecessary property damage and minimize service interruption.

GENERAL

Normal and routine maintenance of the collection system aids the system to operate at its maximum design capacity. However, there may be times when an overflow or spill occurs. This Sewer Overflow Response Plan will help facilitate a timely and technically correct response.

In order for City staff to accurately assess the level of response, the potential liability claims for property damage and to accurately report overflows/spills to regulatory agencies the following definitions shall apply.

I. MINOR SPILL

A minor INSIDE spill is one that:

A. Is confined to the affected drain area and does not enter other rooms fit for occupancy.
B. Does not contaminate carpet, furniture or other homeowner belongings that require specialized cleaning equipment or disinfectants.
C. Does not pose a public health threat.
D. Does not require regulatory notification.

A minor OUTSIDE spill is one that:

A. That one is less than 50 gallons.
B. Is between 50 and 1000 gallons, does not contaminate public waters and does not pose a threat to public health and/or the environment and can be cleaned up by city staff.

II. MAJOR SPILL

A major INSIDE spill is one that:

A. Spreads beyond the immediate drain area into other living areas.
B. Contaminates carpets, furniture or other homeowner belongings that require specialized cleaning or disinfectants.
C. Poses a threat to public health.
D. A major spill is a sewage spill that contaminates the homeowner's property inside the home and needs a professional cleaning service.

A major OUTSIDE spill is one that:

A. Is greater then 1000 gallons

B. Is more than 50 gallons, contaminates public water and\or poses a threat to public health and\or the environment.

SAFETY

Whenever city staff responds to a report of an overflow/spill they may encounter an emergency situation that requires immediate action. The most critical aspect of resolving an incident of this nature is to safely and competently perform the actions necessary to return service as soon as possible.

The most important item to remember during this type of incident is that safe operations always take precedent over expediency or short cuts.

Depending on the nature or cause of the overflow/spill, staff may be performing mechanical or electrical repairs at a pump station, removing mainline blockages with combination vehicles or repairing a damaged section of pipeline. All essential safety procedures are followed so that the response does not cause the situation to escalate.

Responses may require staff to implement the following types of safety procedures:

- Lockout/Tagout of equipment for repair
- Confined space entry procedures
- Traffic control procedures at site
- Trench and shoring procedures
- Equipment and/or vehicle operation
- Use of personnel protective equipment

Communication is critical when responding to an overflow/spill; communication is maintained via 2-way radio or cell phone. Staff may need to call for additional personnel as the situation may warrant, as well as to notify a supervisor of the situation.

PROCEDURES

This section will provide step-by-step procedures explaining the actions to be taken in response to an overflow/spill. The procedure will based upon the type overflow/spill; mainline blockage: force main leak or pump station failure and private line/lateral failure.

I. Mainline Blockage

1. Contact property owner or person reporting the overflow/spill and obtain information on location to determine if the spill is within the cities service area.
2. Upon arrival at the overflow/spill location, make a determination as to the source of the overflow/spill.
3. Secure area by placing cones or barricades around the affected area.
4. All reasonable methods to contain overflow/spill shall be used as soon as possible to prevent overflow/spill from expanding. Examples of reasonable containment methods are:

    i. Vacuuming with combination vehicle
    ii. Building a dike/berm
    iii. Sandbagging
    iv. High lining

5. Inspect flow condition in structure/manholes up and downstream from the overflowing structure/manhole to determine the location of the blockage.
6. Use hydraulic (combination cleaner) or mechanical (rodding machine) cleaner to relieve the blockage as soon as possible.
7. Once the blockage has been relived or problem is corrected and overflow has ceased, use the combination machine (Vac-Con/Vactor) to vacuum up the spill. Call additional personnel if needed to recover spill and begin the decontamination process.
8. If there is flooding or property damage, notify a Wastewater Supervisor immediately so that necessary photographs of the affected area can be taken.
9. Provide proper cleanup, removing any debris and disinfect affected area to minimize health hazards and damage.
10. Do not volunteer information on liability. Only neutral comments should be used by city staff indicating that the liability issue cannot be determined until all relevant information has been evaluated. Be polite and sympathetic to the property owner's concerns. Assure them that regardless who is at fault, you are there to assist them in expediting the cleanup.

A. If Overflow/Spill is Inside Structure (Major):

1. Assist the owner of the structure in calling a professional cleaning service for proper cleanup.
2. Draw a diagram of area affected by overflow. Note any water damage to private property. Take photographs of damaged area to assisting Risk Management in settling potential claims.

B. If Overflow/Spill is Outside the Structure

1. When possible, recover spill by vacuuming using combination machine (Vac-Con/Vactor).
2. If area is inaccessible, remove debris by means of rake and shovel and disposed of properly.
3. Wash area down and disinfect area (if possible).

11. Advise the property owner/occupant of procedure for filing a claim for damages with Risk Management.
12. Make certain that the city's mainline is functioning properly before leaving the area.
13. Complete all required reports with pertinent details including estimate of spill volume. Turn in all reports to a Wastewater Supervisor at the start of the next workday.

IMMEDIATE REPORTING REQUIRMENTS

1. Office of Emergency Services- (1-800-852-7550)
   a. Any overflow/spill greater than 1000

2. Regional Water Quality Control Board/San Diego Region- (Phone #1-858-467-2952, Fax # 1-858-571-6972).
   a. Any overflow/spill greater than 1000 gallons that reach surface water

3. Additional reporting requirements for other agencies attached on the back of plan.

II. FORCE MAIN LEAK

In the event that a spill occurs due to a leak from a force main, the following actions will be taken:

1. The leaking force main will be isolated and if necessary, bypassed if the pump station retention area does offer enough time to make the emergency repairs to the pipeline. High lining or the use of a temporary pipeline maybe installed so that sewage can be pumped around the affected area.
2. City personnel or an approved contractor, depending on the damage, location, volume of overflow and depth of pipe, may complete repairs to the force main.
3. If any overflow from the force main leakage discharges onto private property, public right-of-way or to surface waters, carry out the provisions for containment, reporting, and clean-up as described in I. Mainline Blockage.

III. PUMP STATION FAILURE

1. Most pump stations are fitted with an alarm system that will alert the city's police department dispatch center. The dispatcher will alert pump standby personnel of the pump station failure.

2. Upon arrival at the pump station, a determination is made as to the cause of the alarm. Perform the necessary actions to return the pump station to normal operations.

3. If an overflow has occurred, carry out the provisions for containment, reporting and cleanup as described in I. Mainline Blockage.

List of Sewer Pump Stations

STA. #	STATION NAME	ADDRESS	PUMP TYPE	SIZE	PUMP BRAND/MODEL	OWNER	F/M
PS-01	PSB	276 FOURTH AVE.	SELF PRIMING	3"	GORMAN-RUPP T3A-3B	CHULA VISTA	210'
PS-02	G STREET	890 G ST	SELF PRIMING	6"	GORMAN-RUPP T6A-3B	CHULA VISTA	1292'
PS-07	Police Dept.	Fourth & F Street	SUBMERSIBLE	3"	Hydro-Matic	CHULA VISTA	50'
PS-11	HILLTOP	940 HILLTOP DR	SUBMERSIBLE	3"	BARNS SE-201	CHULA VISTA	372'
PS-12	PARKSIDE DR	598 PARKSIDE DR.	SELF PRIMING	6"	GORMAN-RUPP T6A-3B	CHULA VISTA	1476'
PS-15	MAX FIELD	1500 MAX AVE	SUBMERSIBLE	3"	BARNS	CHULA VISTA	323'
PS-17	AUTO PARK	560 AUTO PARK DR	SELF PRIMING	4"	GORMAN-RUPP T4A-3B	CHULA VISTA	1516'
PS-22	EASTLAKE PKWY	1196 EASTLAKE PKWY	SELF PRIMING	6"	GORMAN-RUPP T6A-3B	CHULA VISTA	1563'
PS-24	RANCHO ROBINHOOD II	277 SURREY DR	SUBMERSIBLE	3"	BARNS SE-201	CHULA VISTA	505'
PS-25	RANCHO ROBINHOOD III	375 CORRAL CT	SELF PRIMING	3"	GORMAN-RUPP T3A-3B	CHULA VISTA	648'
PS-27	OLYMPIC TRNG CTR I	1750 WUESTE RD.	SELF PRIMING	6"	GORMAN-RUPP T6A-3B	U.S.O.C.	1959'
PS-28	OLYMPIC TRNG CTR II	1750 WUESTE RD.	SUBMERSIBLE	4"	GORMAN-RUPPJSV4D6O-E14	U.S.O.C.	2490'

CONTIGENCIES FOR PUMP STATION POWEROUTAGES AND FAILURES

Emergency Phone Numbers For Equipment Rental Or Service

Generator Service or Rental: Bay City Electric Works 24 Hr. Emergency Phone – 1 (858) 268-9130

Pump and Highline Rental: Rain For Rent 24 Hr. Emergency Phone- 1 (909) 653-2171

PS-01, Public Service building, /power outage – Police Station is outfitted with emergency generator for pump power. / Pump Failure – Has second pump with separate controller. / Forced Main Failure, - Station is in basement where all sewage can be contained and water influent can be limited until building repairs can be made.

PS-02, G St., Power Outage or Pump Failure, station has a properly sized portable diesel powered pump stationed on site. / Forced Main Failure, - Highline sewer pumping can be accomplished. Use combination trucks to maintain safe level until repairs can be made.

PS-07, Police Dept. Emergency power provided by generator. Can be maintained by commercial septic service in the event of failure.

PS-11 - Hilltop - Power Outage, Pump Failure, Forced Main Failure shall be managed with a portable pump connected to emergency pump connection or Combination Truck, or a rented generator (power outage only) to maintain safe level until repairs can be made.

PS-12 - Parkside Dr. - Power Outage, has a back-up Natural Gas engine that drives pump, / Pump Failure, Forced Main Failure, Pump using highline to maintain safe level until repairs can be made.

PS-15 - Max Field - Any failure,- secure all sources of influent sewage by locking restrooms, sewage can be pumped using highline to maintain safe level until repairs can be made.

PS-17, Auto Park has a back-up Natural Gas engine Power Outage, has a back-up Natural Gas engine that drives pump, / Pump Failure, Forced Main Failure, Pump using highline and/or a combination truck to maintain safe level until repairs can be made.

PS-22, Eastlake Parkway, has back-up diesel generator for emergency power. Forced main failures will be managed with a highline and/or combination truck(s) to maintain safe level until repairs can be made.

PS-24, Rancho Robinhood II – Any failure, can be managed with a portable pump or Combination Truck.

PS-25, Rancho Robinhood III– Any failure, will be managed with a Combination Truck.

PS-27, Olympic Training Ctr. I has back-up natural gas generator Pump failures can be managed with a portable pump or combination truck(s). Forced main failures will be managed with a highline and/or combination truck(s) to maintain safe level until repairs can be made.

PS-28, Olympic Training Ctr. II has auto shutdown of water to facility if wet well reaches high water alarm level or can be managed with a Combination Truck

IV. PRIVATE LINE OR LATERAL

1. If it is determined that the overflow is originating from a private line or lateral, the owner or property manager must be notified that they are responsible for corrective actions.
2. If any overflow from a private line or lateral discharges onto public property, public right-of-way, or onto surface waters, carry out the provisions for containment, reporting, and cleanup as described in I. Mainline Blockage.
   If it is determined that the overflow/spill is originating from a sewer lateral staff will follow the City of Chula Vista Council Policy, Sewer Maintenance Resolution No.4377. If all the criteria are met in the city policy, staff will assist the homeowner or property manager to take corrective action to relieve the blockage.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

SANITARY SEWER OVERFLOW REPORT FORM

06/13/2001

ALL ITEMS ARE REQUIRED TO BE ADDRESSED.

1. THIS REPORT IS (CIRCLE ONE): PRELIMINARY FINAL REVISED FINAL
2. SANITARY SEWER OVERFLOW SEQUENTIAL TRACKING NUMBER: _____
3. REPORTED TO: _____
   (ENTER FAX, VOICE MAIL, OR NAME OF REGIONAL BOARD STAFF)
4. DATE REPORTED: ___/___/___ (MM/DD/YY)

   TIME REPORTED: ___:___ (MILITARY OR 24 HOUR TIME)
5. REPORTED BY: _____
6. PHONE: (___)___-____
7. REPORTING SEWER AGENCY: _____
8. RESPONSIBLE SEWER AGENCY: _____
9. OVERFLOW START: DATE: ___/___/___ (MM/DD/YY)

   TIME: ___:___ (MILITARY OR 24 HOUR TIME)
10. OVERFLOW END: DATE: ___/___/___ (MM/DD/YY)

    TIME: ___:___ (MILITARY OR 24 HOUR TIME)
11. ESTIMATED OVERFLOW FLOW RATE: _____ (GALLONS PER MINUTE)
12. TOTAL OVERFLOW VOLUME: _____ (GALLONS)
13. OVERFLOW VOLUME RECOVERED: _____ (GALLONS)
14. OVERFLOW VOLUME RELEASED TO ENVIRONMENT: _____ (GALLONS)

SANITARY SEWER OVERFLOW LOCATION AND DESCRIPTION:

15. STREET: _____

CITY: _________________ ZIP CODE:_________

16. COUNTY: __ (SD, RI, OR)

17. SANITARY SEWER OVERFLOW STRUCTURE I.D.:

____

18. NUMBER OF OVERFLOWS WITHIN 1000 FT. OF THIS LOCATION IN PAST 12 MONTHS ___

19. DATES OF OVERFLOWS WITHIN 1000 FT OF THIS LOCATION IN PAST 12 MONTHS

____

20. OVERFLOW CAUSE --SHORT DESCRIPTION -- CIRCLE ONE

ROOTS	GREASE	LINE BREAK	INFILTRATION
ROCKS	BLOCKAGE	POWER FAILURE	PUMP STATION FAILURE
DEBRIS	VANDALISM	FLOOD DAMAGE	MANHOLE FAILURE
OTHER	UNKNOWN	CONSTRUCTION	PRIVATE PROPERTY

21. OVERFLOW CAUSE -- DETAILED DESCRIPTION OF CAUSE

____

____

____

____

____

22. SANITARY SEWER OVERFLOW CORRECTION -- DESCRIPTION OF ALL PREVENTATIVE AND CORRECTIVE MEASURES TAKEN OR PLANNED.

____

_ _

_ _

_ _

23. WAS THERE MEASURABLE PRECIPITATION DURING 72-HOUR PERIOD PRIOR TO THE OVERFLOW? _ _ (Y OR N)

INITIAL AND SECONDARY RECEIVING WATERS:

24. DID THE SANITARY SEWER OVERFLOW ENTER A STORM DRAIN? _ _ (Y OR N)

25. DID THE SANITARY SEWER OVERFLOW REACH SURFACE WATERS OTHER THAN A STORM DRAIN? _ _ (Y OR N)

26. NAME OR DESCRIPTION OF INITIAL RECEIVING WATERS. (IF NONE, TYPE NONE)

_ _

27. NAME OR DESCRIPTION OF SECONDARY RECEIVING WATERS. (IF NONE, TYPE NONE)

_ _

28. IF THE SANITARY SEWER OVERFLOW DID NOT REACH SURFACE WATERS, DESCRIBE THE FINAL DESTINATION OF SEWAGE.

_ _

NOTIFICATION:

29. WAS THE LOCAL HEALTH SERVICES AGENCY NOTIFIED? _ _ (Y OR N)

30. IF THE OVERFLOW WAS OVER 1,000 GALLONS, WAS THE OFFICE OF EMERGENCY SERVICES (OES) NOTIFIED? _ _ (Y or N) (NOT APPLICABLE, ENTER NA)

AFFECTED AREA POSTING:

31. WERE SIGNS POSTED TO WARN OF CONTAMINATION? _ _ (Y OR N)

32. LOCATION OF POSTING (IF POSTED): _

33. HOW MANY DAYS WERE THE WARNING SIGNS POSTED? _ _ _

34. REMARKS:

_____

_____

_____

_____

_____

NOTES:

1) **FOR DESCRIPTIONS AND CLARIFICATIONS OF ALL ITEMS ON THIS FORM, REFER TO ORDER NO. 96-04 AS AMENDED, INCLUDING THE DOCUMENT ENTITLED, "REQUIRED FIELDS FOR ORDER NO. 96-04 QUARTERLY SUMMARY REPORT."**
2) **IF THE SANITARY SEWER OVERFLOW EVENT RESULTS IN A DISCHARGE OF 1,000 GALLONS OR MORE, OR IN A DISCHARGE TO SURFACE WATERS, THIS FORM MUST BE RECEIVED BY THE REGIONAL BOARD NO LATER THAN FIVE DAYS AFTER THE OVERFLOW START DATE.**

The following certification must be completed with the five-day notice:

I swear under penalty of perjury that the information submitted in this document is true and correct. I certify under penalty of perjury that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

_____
Signature

_____
Name

_____
Title

_____
Date

GARY W. ERBECK
DIRECTOR

RICHARD HAAS
ASSISTANT DIRECTOR

County of San Diego

DEPARTMENT OF ENVIRONMENTAL HEALTH
LAND AND WATER QUALITY DIVISION
P.O. BOX 129261, SAN DIEGO, CA 92112-9261
(619) 338-2222 FAX (619) 338-2377
1-800-253-9933

Wastewater Spill Reporting Requirement and Guidelines October 2004

California Health and Safety Code Section 5411.5 requires notification of wastewater spills to the Department of Environmental Health (DEH). A wastewater spill includes raw municipal sewage, the effluent of treated sewage, or other wastewater from any part of a wastewater collection, conveyance or treatment system that may affect surface waters, recreational waters or public health and safety. Reportable spills are summarized in the table below.

Immediately Reportable	Reportable Within 24 Hours
• All spill to water of the state (ocean, bay, river, dry or flowing creek or stream, drinking water reservoir, etc.). • Unmitigated spills to areas with potential public contact (near homes, schools, parks, etc.). **Immediately reportable wastewater spills must be called in to the DEH at any time of day or night. A facsimile sanitary sewer overflow report should follow within 24 hours.**	• Mitigated spills. These are to the ground only, no potential for waters of the state contact. The spill is 100% absorbed, cleaned up, or captured. • Unmitigated spills to areas without potential public contact. **These spills must be reported to the DEH within 24 hours of occurrence. Both phone calls and facsimiles of sanitary sewer overflow reports are acceptable means of reporting.**

Normal Working Hours (8:30 a. m. to 5:00 p.m. Monday to Friday)

Proposition 65 coordinator (858) 495-5579
Fax: (858) 694-3670

After Hours, Weekend and Holidays

County Communications (858) 565-5255 Request to have the Haz-Mat Duty Specialist paged.
Fax: (858) 694-3670

Sampling and Warning Sign Posting Requirements

The DEH will advise reporting agencies on requirements for sampling and for posting signs warning of sewage contamination. Signs must be posted at all areas, including water bodies, where the public may come into contact with wastewater spills. The DEH will be responsible for any required public notifications such as press releases. The DEH will also advise responsible agencies when to remove signs based on bacteriological sampling and other environmental conditions.

SANITARY SEWER OVERFLOW REPORTING TABLE

Agency	Criteria of Immediate Reporting	Criteria of Delayed Reporting	General Exceptions	Authorization (codes, laws, regulation)	Contact, Phone and Fax
California Regional Water Quality Control Board, San Diego Region	Any discharge of 1,000 gallons or more to surface water requires 24-hour and 5 day notice plus database reporting	Quarterly database reporting only for less then 1,000 gallons or spills not reaching surface waters	Any discharge to temporary storage or conveyance facilities	Water Code Order 96-04	Spill Incident Response Team (SIRT) Ph: (619) 467-2952 Fax: (619) 571-6972
San Diego County Department of Environmental Health	Any discharge to the ocean, bay, flowing streams & open storm drains Any discharge more then 50 gallons. Any discharge near homes schools, parks, or areas accessible by the public.	Fax only when less then 50 gallons.	Small amounts associated with maintenance or repairs captured on site. Less then 50 gallons that is absorbed, cleaned, not in human contact areas. Backup in a structure when captured.	Health and Safety Code, Proposition 65	Clay Clifton Ph: (619) 338-2386 Richard Haas Ph: (619) 338-2070 Fax: (619) 338-2848
Office O Emergency Service	Any discharge of 1,000 gallons or more			Health and Safety Code, Proposition 65	OES Warning Center Ph: (800) 852-7550 Fax (916) 262-1677
California Dept. of Fish and Game	Any discharge of 1,000 gallons or more Any discharge resulting in a fish kill Any discharge that enters a closed lagoon or water body with no natural flushing			Health and Safety Code, Proposition 65	Normally contacted by OES. If a fish kill call Bill Paznokas Ph: (619) 467-4218 Fax: (619) 467-4299

CITY OF
CHULA VISTA

WASTEWATER COLLECTION SYSTEM
SEWER OVERFLOW PREVENTION PROGRAM

The City of Chula Vista's Sewage Overflow Prevention Plan (SOPP) provides an overview of the city's program to prevent sewer spills. It has been prepared pursuant to the Waste Discharge Requirements issued the California Regional Water Quality Control Board, San Diego Region Order No. 96-04. This (SOPP) is designed to prevent, or minimize the potential for sewer overflows from the city's wastewater collection system.

The SOPP will provide a general overview of the city's wastewater collection system and sewer overflow prevention programs.

OVERVIEW OF THE WASTE WATER COLLECTION SYSTEM

The City of Chula Vista currently serves a population of over 200,000. The Wastewater Collection System section of the Public Works Operation is responsible for the operation and maintenance of approximately 400 miles of sewer mains, 8,000 sewer access ports and 12 pump stations. From within the city's 50.6 square miles service territory, the city transmits average daily sewage flows of approximately 17 million gallons per day (mgd). The city's sewage is transported to the Metropolitan trunk sewer and the Spring Valley Outfall sewer line to the Point Loma Wastewater Treatment Plant.

SANITARY SEWER OVERFLOW PREVENTION MEASURES

The City's preventive and corrective maintenance programs consist of routine maintenance, repairs, and replacement of sewer mains, manholes, laterals and pump stations. The program provides for the inspection, cleaning, and related maintenance of all components of the collection system. Potential problems are input into the Integrated Infrastructure Management System (IIMS) and are scheduled according to the severity of the problem. Larger and more complex projects are included in the Capital Improvement Projects (CIP) process for planning, design, and construction.

If a sewer overflow occurs due to a sewer main stoppage or mechanical breakdown, the problem is investigated and analyzed. Maintenance schedules or cleaning methods are adjusted accordingly. If a repair or replacement to an infrastructure component is needed, the repair will be included in the CIP process, or be repaired by city crews

The following are preventive measures that the City of Chula Vista incorporates in the sewer overflow prevention plan:

Maintenance Program

Preventive Measures:

A. Routine Sewer Main cleaning - Four combination vehicles clean city sewer mains on a daily basis. Individual cleaners can maintenance from 1000-6000 lineal feet a day.
B. Critical Main Cleaning Program - Monthly main cleaning of approximately five miles of low flow and known grease problem areas.
C. Chemical/Enzyme Application Program – Application of chemical/enzyme at 19 separate locations, 3-days a week at known grease problem areas
D. Sewer Main and Manhole Inspection Program – Daily visual and/or televised inspection of sewer mains and manholes.
E. Sewer Main Replacement (C.I.P.) – Repair, replacement, or rehabilitation of impacted sewers to improve sewer flow velocities and/or increase volume.

Root Control

Preventive Measures:

A. Routine Sewer Main cleaning - Three Vac-con combination vehicles clean city sewer mains on a daily basis.
B. Mechanical Rodding – Rodding known areas with root cutters on a quarterly, or as needed basis.
C. Sewer Main and Manhole Inspection Program – Daily visual and/or televised inspection of sewer mains and manholes for root intrusion.
D. Sewer Main Replacement (C.I.P.) – The repair, replacement, or rehabilitation of impacted sewers to eliminate long-term root problems.

Control of Rocks, Debris and Vandalism

Preventive Measures:

A. Locking Sewer Manhole – Install locking manhole covers or sealing non-locking manhole covers in off-road and other secluded areas as well as previous vandalized manholes.
B. Sewer Main and Manhole Inspection Program – Daily visual and/ or televised inspection of sewer mains and manholes.

Pipeline Failure and Construction Damage

Preventive Measures:

A. Sewer Main and Manhole Inspection Program – Daily visual and/or televised inspection of sewer mains and manholes. Manhole and mains are monitored for deterioration.
B. Sewer Main and Manhole Maintenance – Repair, relocation, and or protection of sewer mains and manholes from potential damage.
C. Routine Sewer Main cleaning - Four combination vehicles clean city sewer mains on a daily basis.
D. Sewer Main Replacement (C.I.P.) – The repair, replacement, or rehabilitation or relocation of sewers and manhole prone to damage by any source.
E. Dual Force Mains – Installation of dual force mains at new sewer pump stations when needed.
F. Currently installing a Supervisory Control and Data Acquisition Systems (**SCADA**) designed specifically for remote monitor, control and automation of wastewater pump/lift stations.

Power outages and Pump station failures

Preventive Measures:

A. Backup Power – On site generators for back-up electrical power at most city pump stations.
B. Portable Generator Capability – Provide portable back-up generator capability sufficient to operate all sewer pump stations that do not have on-site generators or alternate power feeds.
C. Retention Ponds and Wells – Larger volume pump stations are provided with retention ponds in case of pump station failure. Some less volume stations are provided with wet wells that have some retention time as well as having emergency pump down lines that can be connected to portable pumps.
D. Sewer Pump Station Maintenance Program – All pump stations are checked three days a week for proper operation. Provide scheduled preventative and corrective maintenance on pump station electrical and mechanical components as well as contracted quarterly maintenance on the on-site generators.

Capital Improvement Program

Preventive Measures:

A. Infrastructure is monitored for capacity limitations and deterioration. Studies are performed to determine the impacts of growth and new development.
B. $300,000 a year is allocated to fund sewer rehabilitation projects such as re-lining and spot repairs on sewer mains and manhole reconstruction.